



## PATENT ABSTRACTS OF JAPAN

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(54) **HEAT RESISTANT CAST STEEL IMPROVED IN  
CREEP FRACTURE STRENGTH**

(57) Abstract:

PURPOSE: To manufacture a heat resistant cast steel improved in creep fracture strength by preparing a heat resistant cast steel having a specified compsn. in which each content of C, Nb and Hf is prescribed.

CONSTITUTION: A heat resistant cast steel contg., by

weight, 0.3 to 0.6% C,  $\leq 3\%$  Si,  $\leq 2\%$  Mn, 22 to 30% Cr, 30 to 55% Ni, 0.2 to 1.5% Nb and 0.05 to 1% Hf, furthermore contg., at need, one or two kinds of 0.01 to 0.5% Ti and 0.01 to 0.5% Zr and the balance of substantially Fe is prepd. In this way, the heat resistant cast steel improved in high temp. creep fracture strength while its required aging properties, carburizing resistance and weldability are secured can be obtd.

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**Heat resistance cast steel having improved creep rupture strength -  
contains carbon, silicon, manganese@, chromium@, nickel@, niobium,  
titanium@ and/or zirconium, used in petrochemical reaction tubes**

Patent Assignee: KUBOTA CORP (KUBI )

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Patent Family:

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Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
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Abstract (Basic): JP 5001355 A

Heat resistant cast steel includes C (0.3-0.6%), Si (below 3%), Mn (below 2%), Cr (22-30%), Ni (30-55%), Nb (0.2-1.5%), Hf (0.05-1.00%) and additional Ti (0.01-0.50%) and/or Zr (0.01-0.50%).

ADVANTAGE - Adding Hf improves creep rupture strength at above 1,050 deg.C for high Cr-high-Ni-Fe heat resistant alloy for petrochemical industry reaction tube.

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